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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/869,653	02/15/2002	Eric Kaltenbacher	21422/04022	7068

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EXAMINER

DOAN, JENNIFER

ART UNIT	PAPER NUMBER
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2874

DATE MAILED: 02/28/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/869,653

Applicant(s)

KALTENBACHER ET AL.

Examiner

Jennifer Doan

Art Unit

2874

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-21 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-4, 9, 10, 17 and 18 is/are rejected.
- 7) ☒ Claim(s) 5-8, 11-16 and 19-21 is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 15 February 2002 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on ____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. ____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). ____.
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 8. 6) ☐ Other: .

DETAILED ACTION

Drawings

1. The drawings, filed on 02/15/2002, are accepted.

Specification

2. This application does not contain an abstract of the disclosure as required by 37 CFR 1.72(b). An abstract on a separate sheet is required.

Applicants' cooperation is requested in correcting any other errors of which applicants may become aware in the specification.

Claim Rejections - 35 USC § 112

3. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.
4. Claim 17 recites the limitation "said light conduit" in line 6 of claim 17. There is insufficient antecedent basis for this limitation in the claim.

Claim Rejections - 35 USC § 102

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

6. Claims 1-4 are rejected under 35 U.S.C. 102(b) as being anticipated by Che et al. (U.S. Patent 5,604,587).

Regarding claims 1 and 3, Che et al. disclose (Figs. 1-3) a liquid core waveguide device for fluorescence spectroscopy comprising a flexible tube (10) for defining a liquid core (14) and being transmissive to light in a relatively short excitation wavelength range, the flexible tube having at least one outlet end as shown in Fig. 1; a light coupling device (26) connected to the outlet end of the tube through which emitted light in a relative longer wavelength range can pass (column 4, lines 2-4) and a first light source (24) directing light in the relatively short excitation wavelength range through the walls and into the liquid core (14) of the flexible tube (10) to excite molecular material in the core and generating ultraviolet light of a wavelength suitable to cause fluorescence of a material in the liquid core (column 3, lines 52-57 and column 4, lines 2-4).

Regarding claim 2, Che et al. disclose the flexible tube (10) is configured into a coil as shown in Fig. 1.

Regarding claim 4, Che et al. further disclose a support tube (20), the flexible tube (10) being wrapped in windings about the outer surface of the support tube (20).

Claim Rejections - 35 USC § 103

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

8. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

9. Claims 9, 10, 17 and 18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Che et al. (as cited above) in view of Stone et al. (U.S. Patent 3,770,350).

Che et al. disclose a liquid core waveguide system (Fig. 1) comprising a flexible tube (10) having a substantially circular cross section and a constant diameter and having an index of refraction less than the index of refraction of a liquid (Fig. 1, abstract and column 2, lines 16-19).

Che et al. disclose all the limitations of the claimed invention except for a light splitter provided with each light-coupling device as recited in claim 9. However, the light splitter is well known in the art as taught by Stone et al. Stone et al. disclose a light

splitter (31, Fig. 3) to split the light beam. Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the Che et al. device with a beam splitter for dispersing the light beams.

Che et al. disclose all the limitations of the claimed invention except for a GRIN lens provided to profile the light passing therethrough as recited in claims 10, 17 and 18. However, the lens is well known in the art as taught by Stone et al. Stone et al. teach the lens (9, Fig. 1 and 30, Fig. 3) to focus the light beam. Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the Che et al. device with a lens for focusing the light signals from the light source.

Allowable Subject Matter

10. Claims 5-8, 11-16 and 19-21 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Conclusion

11. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Nath (U.S. Patent 5,412,750) discloses an apparatus having a light source and a liquid-core light guide. Dasgupta et al. (U.S. Patent 6,011,882) disclose an optical detection of different chemical species. Dasgupta (U.S. Patent 6,332,049) and Friedrich et al. (U.S. Patent 6,385,380) disclose an apparatus and


method for detecting the photoluminescence by using a detector having a liquid-core waveguide.

12. The prior art documents submitted by applicant in the Information Disclosure Statement filed on 06/28/2002, including the Che and Stone et al. patents relied on in the rejection above, have all been considered and made of record (note the attached copy of form PTO-1449).

13. Any inquiry concerning the merits of this communication should be directed to Examiner Jennifer Doan whose telephone number is (703) 308-6179. The examiner can normally be reached on Monday to Thursday from 6:30am to 4:00pm, first Friday off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Rodney Bovernick, can be reached on (703) 308-4819. The fax phone number for the organization where this application or proceeding is assigned is (703) 308-7724.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0956.


Alvin E. Ullish
Primary Examiner

JD

JD

February 21, 2002